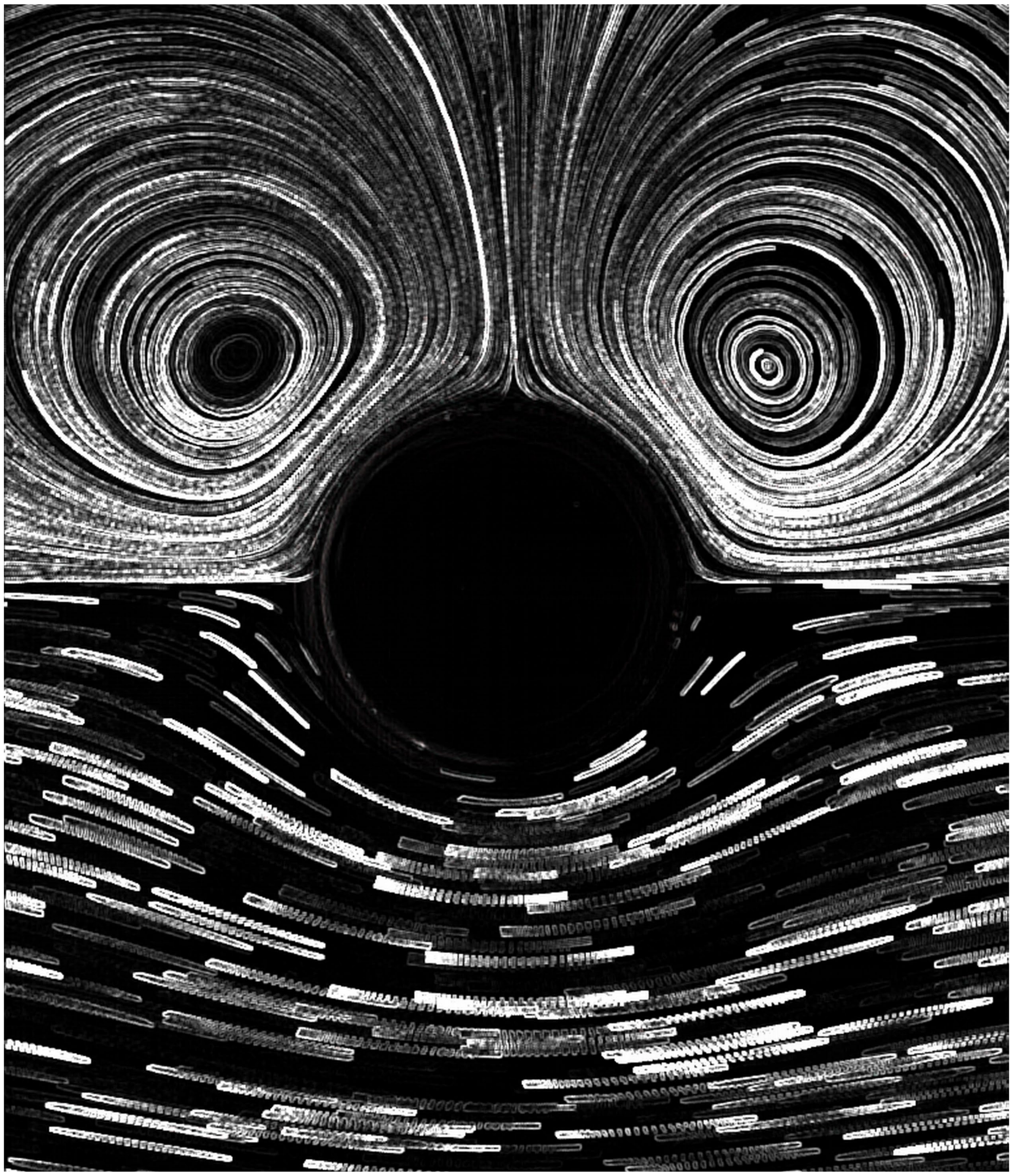

Smile, You're on High Speed Camera

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Liquids around us differ widely in their behavior, some are thick, some slippery and some very strange. To tell the difference, we only need to tap gently and watch how they respond. My research involves tapping fluids hundreds of times a second with sound and watching very closely; in an area smaller than the head of the pin, to understand them better. The lower half of the image shows what particles in a liquid experience as it is subjected to such rapid vibration over the course of a few thousandths of a second, while the top half shows the dramatically different motion observed when viewed over a tenth of a second. Combining the information available to us from the top and the bottom images such as the shape and strength of the flow we may piece together the critical engineering properties that are otherwise elusive.